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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/606,769	06/29/2000	Richard A. Balch	11-ME-472	6990

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EXAMINER

MORRIS, ANDREW P

ART UNIT

PAPER NUMBER

2857

DATE MAILED: 12/23/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/606,769

Applicant(s)

BALCH ET AL.

Examiner

Andrew P Morris

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 January 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-60 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5, 7-22, 24-28, 30-35, 37-52, 54-58 and 60 is/are rejected.
- 7) ☒ Claim(s) 6, 22, 23, 29, 36, 52, 53 and 59 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 January 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

Claim Objections

1. Claims 15 and 45 are objected to because of the following informalities: the use of the conjunction “and” as opposed to “or”. Appropriate correction is required.
2. Claim 24 is objected to because of the following informalities: missing preposition between “data” and “meters”.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

1. Claims 1-5, 7, 31-35 and 37 are rejected under 35 U.S.C. 102(e) as being anticipated by Hubbard et al. (US Patent No. 6,374,188).

In regard to claims 1-4 and 31-38, Hubbard et al. discloses a method for altering the form type of an electricity meter in response to the loss of a phase voltage. The microcomputer-controlled (col. 5 lines 39-41) system described in Hubbard et al. is capable of performing a

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service test to determine the service type of the meter by checking for the absence of any one of the phase voltages (col. 8 lines 26-41). Furthermore, the service type of the meter is denoted by a case number, which is determined by the number of elements being monitored (col. 34 lines 2-13).

In regard to claims 5 and 35, the system of Hubbard et al. is capable of performing the service test multiple times and changing the metering form a second time if another change in the phase voltages were to occur (col. 9 lines 60-66).

In regard to claims 7 and 37, the system of Hubbard et al. is capable of periodically performing the service test (col. 9 lines 60-66).

2. Claims 19, 20, 49 and 50 are rejected under 35 U.S.C. 102(e) as being anticipated by Rector et al (US Patent No. 6,115,676).

Rector et al. discloses an electricity meter that obtains load profile data during normal operation and exports said data to a service control center upon request from the service control center (col. 10 lines 26-38).

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 10, 11, 13, 14-18, 40, 41, 43, and 44-48 are rejected under 35 U.S.C. 102(b) as being anticipated by Bearden et al. (US Patent No. 5,627,759). Bearden et al. discloses an electricity meter that generates revenue related data for a plurality of phases (Figure 5B, signal lines PIA, PIB, and PIC carry signals for each of the phase currents) and is capable of

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performing the task of generating specialized data in response to changes in a measured line voltage.

In regard to claims 10, 13, 40 and 43, Bearden et al. discloses a system that logs the duration of both voltage sags below a certain level and voltage swells above a certain level (col. 14, claims 1 and 6).

In regard to claims 11 and 41, Bearden et al. discloses a system that logs the current and voltages per event. The invention of Bearden et al. logs a minimum value for each sag event (col. 11 lines 41-44) and a maximum value for each surge event (col. 11 lines 17-19) as reference values for comparison to future current and voltage values. It should be noted that the passages cited above explain a method for logging voltages and currents even though the passages only explicitly deal with voltages (col. 10 lines 47-52).

In regard to claims 14, 15, 18, 44, 45 and 48, Bearden et al. discloses a system that captures a waveform, for a time period equal to a surge time interval, of the incoming voltage in response to a voltage swell (col. 14, claim 2).

In regard to claims 16 and 46, since the waveform capture function of Bearden et al. is triggered by a random event, instead of being performed periodically at a given frequency, the existence of a waveform capture flag (i.e. any signal that initiates the waveform capture task in response to a change in the sensed data, for example, the changing output of a comparator (col. 10 lines 52-60)) is inherent in the system of Bearden et al.

In regard to claims 17 and 47, Bearden et al. teaches the use of a waveform counter. In the system of Bearden et al. the capture of a waveform begins at the first occurrence of an anomaly in the observed voltage (col. 14 claim 2) and finishes at the end of the surge time

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interval, which is limited by a set value referred to as the “maximum predetermined time threshold” (col. 11 lines 17-21). The arrival of the end of the maximum predetermined time threshold is determined through the use of a counter that increments upon every occurrence of a subsequent voltage anomaly after the first occurrence that begins the waveform capture (col. 11 lines 20-21).

5. Claims 21 and 51 are rejected under 35 U.S.C. 102(b) as being anticipated by Pyle et al. (US Patent No. 5,467,286). Pyle et al. discloses a method of metering energy consumption comprising the steps of controlling the meter using a first program in a first section of memory (col. 2 lines 32-27), writing a second program into a second portion of memory (col. 2 lines 34-35), and switching control of the meter to the second program once it has been written to memory (col. 2 lines 35-37).

6. Claims 24-26 and 54-56 are rejected under 35 U.S.C. 102(b) as being anticipated by Allgood (US Patent No. 4,568,934), which discloses a method and apparatus for computing the total power consumption detected by multiple meters. The system of Allgood comprises multiple meters at remote locations that periodically (daily in one embodiment, col. 67 lines 37-42) transmit consumption data, using a type of pulse communication (col. 6 lines 27-32), to a central meter where the consumption data from the individual meters is totaled and the total is stored in a location in a memory (col. 67 lines 37-42). As an intermediate step in the energy calculation method of Allgood, the consumption data from the individual meters is scaled to ensure the energy data falls within a predetermined digitizing range (col. 14 lines 45-48).

7. Claims 27, 30, 57 and 60 are rejected under 35 U.S.C. 102(b) as being anticipated by Atherton et al. (US Patent No. 5,315,235). The invention of Atherton et al. comprises a meter

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register that periodically checks for pending changes in the mode of operation and effects a change if a pending change is detected (col. 2 lines 15-19). Atherton et al. presents a change to a time-of-use schedule as a possible change in the mode of operation (col. 2 lines 56-58).

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 8 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hubbard et al. (US Patent No. 6,374,188). Hubbard et al. discloses a system that performs a predetermined task in response to the detection of a missing phase voltage.

In regard to claim 8, the specification does not give any indication that the use of a 15 second time interval in checking for a lost phase voltage is critical to the operation of the invention of claim 2. One of ordinary skill in the art would have recognized that any time interval substantially small enough to detect a voltage anomaly would have been suitable for the operation of the invention. Thus it would have been obvious to one of ordinary skill in the art at the time of invention to use a 15 second interval (or any other interval suitable for detecting voltages for that matter) in the detection of lost phase voltages.

In regard to claim 9, the specification does not give any indication that the use of a threshold voltage of one-half of a normal voltage is critical to the operation of the invention of claim 8. One of ordinary skill in the art would have recognized that any fraction of the normal

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operating voltage could have been used as the threshold voltage. Thus it would have been obvious to one of ordinary skill in the art at the time of invention to use a threshold voltage of one-half (or any other fraction or percentage) of the normal voltage.

Claims 12 and 42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bearden et al. (US Patent No. 5,627,759) in view ^{of} Hubbard (US Patent No. 6,374,188). Bearden et al. discloses a system that monitors a phase voltage and logs the duration of both voltage sags below a certain level and voltage swells above a certain level (col. 14, claims 1 and 6) and also logs a minimum value for each sag event (col. 11 lines 41-44) and a maximum value for each surge event (col. 11 lines 17-19) to be used as reference values for comparison to future current and voltage values. The above described voltage monitoring task is carried out on one phase voltage only in the invention of Bearden et al. Hubbard et al. teaches the utility of conditioning the performance of a task on the concurrent monitoring of multiple phase voltages of a power source wherein each of the phase voltages are monitored using separate implementations of a single method. In view of the teachings of Hubbard et al., it would have been obvious to one of ordinary skill in the art at the time of invention to implement multiple manifestations (one for each phase) of the system of Bearden et al. for the purpose of logging the minimum and maximum voltage values for any number of phases in response to a change in a phase voltage.

Claims 28 and 58 are rejected under 35 U.S.C. 103(a) as being unpatentable over Atherton et al. (US Patent No. 5,315,235) in view of Atherton et al. (US Patent No. 5,270,949). Atherton '235, as described above, teaches a method for metering energy comprising the steps of periodically checking for a pending change in the mode of operation and effecting that change if

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a pending change is detected, with said method being implemented through the use of a microcomputer (col. 4 lines 44-46). Atherton '235 does not teach a method for the continuation of an action interrupted by a power failure. Atherton '949 teaches a method for checking the mode of operation of an electricity meter after restoring the power to the meter and continuing the operation of that mode once the check is complete (col. 2 lines 38-45). It would have been obvious to one of ordinary skill in the art at the time of invention to include the task continuation feature of Atherton '949 to the meter of Atherton '235 to create a meter, operable in multiple modes, that has the ability to continue execution of a task following a power failure.

Allowable Subject Matter

10. Claims 6, 22, 23, 29, 36, 52, 53, and 59 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew P Morris whose telephone number is (703) 605-4213. The examiner can normally be reached on M-F 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marc S Hoff can be reached on (703) 308 1677. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 746-7414 for regular communications and (703) 746-7414 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 306-3431.

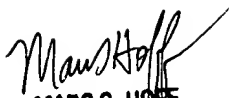
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apm

December 19, 2002


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